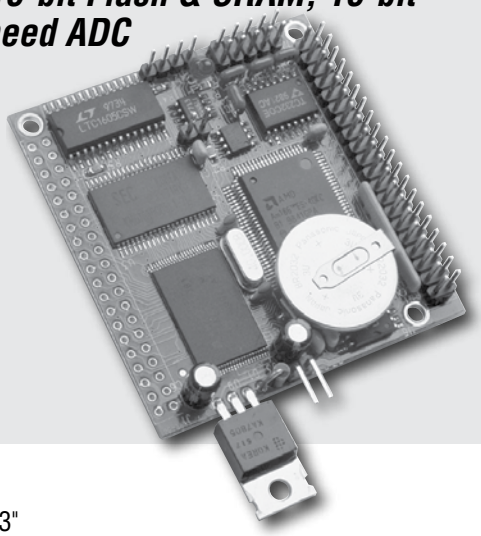
A-Core86™

AC86, 16-bit Flash & SRAM, 16-bit high-speed ADC



Features:

- 2.3x2.2x0.3"
- 190/30mA normal/power-save
- 40 MHz, 16-bit CPU (186), program in C/C++.
- 256KW ACTF Flash, 2 UARTs, EE, PWM, counter, 32 PIOs
- 64/256KW 16-bit SRAM, Real-Time Clock and battery
- 16-bit ADC, 2 ch. DACs
- 2 RS232 ports and 5V regulator

The A-Core86 is our smallest entry, measuring only 2.3" by 2.2". Consuming less than 700mW of power, the AC86 is designed to be the core computer in your next embedded system. Exploit your greatest competitive advantages by focusing on the design of your own product, rather than designing yet another generic embedded computer. Get your project finished and ready to go into production in the span of a few months (or perhaps only a few weeks) by devoting your time and resources on application-specific peripherals.

Still cramming your code into an 8-bit processor with a few KB of memory? With the AC86, now you can upgrade your system to a C/C++ 16-bit processor and a full MB of code/data memory without adding size, power, or cost. And even an experienced PIC guru can appreciate the advantages of the high-level ANSI C/C++ software development environment.

Or, are you wasting dollars and watts on a PC-based motherboard solution that you don't really need? With the AC86, you can **truly** embed your design by retaining the PC-compatible embedded control functionality that you care about, without throwing dollars at peripherals your embedded application doesn't really need (speaker outputs? IDE controllers? Mouse ports? VGA outputs?).

This tiny board features a full set of hardware peripherals that makes it a fully capable, stand-alone, single-board computer. The AC86 is integrated with a full set of commonly used, modern embedded peripherals, meaning that you'll only need to provide power (consuming only 120mA @5V peak, this power might be coming from a small battery).

The 40 MHz 16-bit 186-generation microprocessor has access to 256 KW 16-bit battery-backed SRAM and 256 KW 16-bit Flash in onboard memory. A host of other peripherals are also integrated onboard, including:

- two asynchronous serial ports, featuring programmable baud rate clock, 8 and 9-bit operation, deep hardware buffers, and DMA-based transfer for perfect reliability even at the highest transfer rates.
- three 16-bit timers/counters, capable of timing and counting events at frequencies as high as 10 MHz, and outputting variable pulse width signals,
- 32 programmable digital (0-5V) I/O lines,
- multiple external interrupt lines,
- 512-byte serial EEPROM for parameter storage,
- *real-time clock capable of tracking second, minute, hour, day, month, and year,
- *two ch. 12-bit serial DAC (LT1446, 10 KHz, 0-4.095V output),
- *one ch. 16-bit high-speed parallel ADC (LTC1605, 100Ksamples/s, ±10V),
- *Two RS232 line drivers, and linear regulator capable of accepting unregulated DC inputs of 9-12V.

** These options not included within base price.*

These various peripherals (digital and analog I/O, serial I/O, timer input/outputs, interrupts) are accessible via pin-headers on the edge of the controller. You can reach these signals in your design via expansion headers, ribbon cable, or simply by mating the headers directly into your PCB design.

The address bus, 16-bit data bus, and peripheral chip-select pins coming off of the 186 processor are also accessible via pin-headers. This means you have tremendous flexibility to extend the system to interface with your peripherals, whether that's via a parallel or serial interface.

Ordering Information:

AC86 $69/$54/$49/$34 Qty 1/50/100/1000+

Includes: 64 KW SRAM, 256KW Flash

Add-on Options: (OEM option discounts available.)

1) 16-bit SRAM: 256KW $20
2) Real-time clock (RTC) and battery $20
3) 100K 16-bit ADC(LTC1605) $60
4) 2 ch. 12-bit DAC (LT1446) $20
5) RS232 drivers and 5V regulator $10

Typical Order Example:

A-Core86™, Real-time clock (RTC) and battery

AC86 + 2 = $69 + $20 = $89

TERN INC.
1724 Picasso Avenue, Davis, CA 95618 USA
Tel: 530-758-0180 • Fax: 530-758-0181
CE FC
sales@tern.com http://www.tern.com